

REMARKS

In view of the foregoing amendments and following remarks responsive to the Office Action dated December 1, 2005, Applicant respectfully requests favorable reconsideration of this application.

Applicant has herein amended independent claims 1, 3, and 15 in order to improve their form and correct clerical errors and canceled claims 4, and 7-13. Claim 8 was previously withdrawn as directed to a non-elected species and is now being cancelled in order to place the case in form for allowance. Claims 4 and 7 are superfluous, repetitive or otherwise unnecessary. Independent claim 9 and its dependent claims 10-13 are cancelled without prejudice and so as to possibly be prosecuted in a continuing application.

Applicant acknowledges the withdrawal of claim 8 from consideration as being directed to a non-elected invention.

The Office rejected claims 3 and 15-24 under 35 U.S.C. 112, second paragraph, as being indefinite. Particularly, the Office asserted that the second switch is located in the headset and configured to initiate and/or accept a call and route the call on the second audio path only when the headset is connected to the handset in accordance with the specification Figure 2 and page 5, whereas these claims recite such functionality "regardless of whether the headset is connected to the handset".

Applicant has herein amended claims 1, 3, and 15 in order to eliminate the objected to terminology. Accordingly, this rejection should now be overcome.

The Office rejected claims 1-7 and 15-19 under 35 U.S.C. 103(a) as unpatentable over Gong in view of Kim. The Office further rejected claims 9-13 and 20-24 under 35 U.S.C. 103(a) as being unpatentable over Gong in view of Kim as applied to claim 1 and further in view of Bowen.

Applicant respectfully thanks the Office for the withdrawal of the previous rejections based on anticipation by Kim or obviousness over Kim in view of Van Schyndl.

However, the Office has essentially replaced those rejections with the new rejections using Kim as the secondary reference and the newly cited Gong reference as the primary reference.

The Present Invention

The present invention relates to methods and apparatus for selectively routing the audio between the headset or the handset of a mobile transceiver, such as a cellular phone, in a manner that is extremely easy, convenient, and intuitive for the user of the transceiver. Particularly, one of the problems in the prior art addressed by the present invention is the fact that a cellular telephone user often may have the telephone in his or her pocket with the headset connected to the handset. Existing cellular telephones are designed to automatically route the audio to the headset when the jack of the headset is connected to the jack receptacle of the handset. When an incoming call is received, there is a very limited amount of time to answer the call, which the user may wish to answer by using the handset as opposed to the headset (for instance, because the user does not have enough time to unwrap the headset from the handset and place it on his or her head within the limited time available for answering the call). Yet it may be difficult to disconnect the headset jack within that time because the headset wire is wrapped around the handset. Alternately, the user may not realize that the headset is plugged in and may attempt to talk on the telephone using the speaker and microphone of the handset, only to discover that the speaker and microphone on the handset are disabled because the headset is plugged in. This is a less than optimal design.

The present invention solves this problem. In accordance with the first embodiment of the invention, first and second switches are provided on the handset and headset, respectively. Operation of the switch on the handset initiates (or accepts) the call (i.e., takes the phone "off-hook") and automatically routes the call on a first audio path that is connected to the microphone and speaker of the handset. If, on the other hand, the user operates the second switch on the headset, the phone is taken "off-hook" and simultaneously the call is routed on a second audio path to the microphone and speaker of the headset. Accordingly, the audio

path is selected by the user's choice of which switch he/she operates and is not dictated to the user merely by the fact that the headset is connected to the handset.

In another embodiment of the invention, two switches again are provided. However, in this embodiment, one switch initiates (or accepts) a call and another switch toggles between the audio path on the handset and the audio path on the headset. Again, the user can easily select between the audio path in the handset and the audio path in the headset and the path is not dictated to the user merely by whether or not the headset is connected to the handset.

In yet another embodiment of the invention, first and/or second switches are provided having essentially the same functions as the first and/or second switches in the first embodiment, except that the switches are operated automatically depending on a detection of some physical condition indicative of whether the user intends to use the headset or handset. For instance, a switch may be an acoustic impedance, infrared, or capacitive switch that detects proximity of the handset to the user's head and, if proximity to the user's head is detected, routes the call through the audio path in the handset regardless of whether the headset is plugged into the handset. In another embodiment, the switch is disposed on the headband of the headset and detects the tension on the headband (when it is stretched to be placed on the user's head) and selects the audio path in the headset responsive to such detection.

Traversal of Rejections

Applicant respectfully traverses all of the prior art rejections because Gong does not teach that for which it has been cited. Particularly, the Office asserted that Gong teaches all of the elements of, for instance, independent claim 1, including "a first user operable switch 170 disposed in the handset configured such that the operation thereof has the effect both of initiating, accepting and terminating a call, and of routing audio signals to the audio path corresponding to one of the handset and the headset on which the switch is disposed regardless of whether the headset is connected to the handset". The Office conceded that Gong does not mention the headset with a second switch, but that Kim teaches such a headset.

The Office has cited column 3, lines 11-44 of Gong. However, the only relevant disclosure in that section (or any portion) of Gong states:

The switching unit 150 switches the voice signal outputted from the amplifier 140 to an earphone terminal or a speaker, as shown in FIG. 1B depending on whether the hands-free function has been selected via the key input unit 170. (Column 3, lines 15-19).

and

With reference to FIG. 2, there is shown a flow chart for implementing a hands-free function according to a preferred method of the present invention. First, after forming a speech path at step 200, the controller 100 checks to determine whether the hands-free mode or function has been selected by depression of the corresponding key of the key input unit 170. (Column 3, lines of 25-31).

Hence, quite clearly, Gong discloses that the handset includes a button for selecting between the earphone and the speaker. There is absolutely nothing in Gong that suggests that the same button takes the phone off-hook to initiate or accept a call. There is nothing in Gong to suggest that the key discussed in column 3 does anything but switch the audio path between the earphone and the speaker.

Claim 1 recites an entirely different concept in which a button on the handset both takes the phone off-hook and automatically selects the audio path on the handset regardless of whether the headset is connected or not.

Accordingly, with reference to claim 1, Gong does not teach "a first user operable switch disposed in the handset, said switch configured such that the operation thereof has the effect of both initiating and/or accepting a call, and of routing audio signals to said audio path corresponding to said handset regardless of whether the headset is connected to the handset".

As discussed in response to the previous Office Action, the secondary reference, Kim, also does not teach this feature. In fact, the Office has conceded so much by virtue of withdrawing the previous rejection in which the Office cited Kim as teaching this feature. Accordingly, claim 1 patentably distinguishes over the prior art of record.

Claims 2-7 depend from claim 1 and, therefore, distinguish over the prior art of record for at least the same reasons.

Claim 15 is an independent method claim that recites a similar distinction over the prior art. Particularly, the prior art of record does not teach "responsive to operation of the first switch, initiating or accepting a call and routing the call on the first audio path regardless of whether said headset is connected to said handset". Accordingly, claim 15 patentably distinguishes over the prior art of record for the same reasons discussed above with respect to claim 1.

Claims 16-24 depend from claim 15 and, therefore, distinguish over the prior art of record for at least all of the same reasons discussed above in connection with claim 15.

The rejection of claims 9-13 is rendered moot by the cancellation of those claims without prejudice to possible prosecuting in a continuing application.

In view of the foregoing amendments and remarks, this application is now in condition for allowance. Applicant respectfully requests the Examiner to issue a Notice of Allowance at the earliest possible date. The Examiner is invited to contact Applicant's undersigned counsel by telephone call in order to further the prosecution of this case in any way.

Respectfully submitted,

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Theodore Naccarella
Registration No. 33,023

Synnestvedt & Lechner LLP
2600 Aramark Tower
1101 Market Street
Philadelphia, PA 19107
Telephone: (215) 923-4466
Facsimile: (215) 923-2189

TXN:pmf